Isokinetic Sampling

BACKGROUND OF THE DISCLOSURE

[0001]   The present invention relates to isokinetic sampling. It is particularly, but not exclusively, related to methods and apparatuses for carrying out isokinetic sampling, and in particular isokinetic sampling in oilfield applications.

[0002]   In oilfield applications, as in many other fields, it is important to be able to analyse the composition and properties of a multi-phase fluid stream, such as a gas-condensate stream or a wet-gas stream. In particular it is desired to know the quantity of the various phases of the flow, for example by knowing the gas-oil ratio (GOR) or the condensate-gas ratio (CGR). It is also desired to know the properties of the various phases, for example their pressure, volume and temperature (PVT) relationships.

[0003]   For example, the prediction of fluid phase behavior and reservoir simulation models based on equations-of-state (EOS) typically requires high quality PVT data.

[0004]   PVT data are also often needed for flow assurance in wells and transport lines.

[0005]   Furthermore, PVT data often have a significant impact on processing facility designs and specifications, and therefore on the profitability of gas-oil field.

[0006]   However, to accurately determine the PVT properties and composition of reservoir fluid, representative fluid samples are required. Common analysis sampling procedures suffer from deficiencies in